

JP-U-3024090

## \* NOTICES \*

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CLAIMS

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[Utility model registration claim]

[Claim 1] Noodles food which is characterized by coming into a container to carry out the seal seal of the noodles food by which sterilization processing was carried out under elevated-temperature high-pressure conditions and by which the perfect sterile pack was carried out.

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## DETAILED DESCRIPTION

[Detailed explanation of a design]

[0001]

[The technical field to which a design belongs]

This design is especially related with the noodles food which not only a general viable cell but the heat-resistant viable cell was annihilated completely substantially, and full sanitization was carried out, and was packed in the container about the noodles food by which the perfect sterile pack was carried out.

[0002]

[Description of the Prior Art]

The so-called pouch-packed food is known as food by which the sterile pack was carried out. This can annihilate completely not only a general viable cell but a heat-resistant viable cell by being manufactured by sterilizing under elevated-temperature high-pressure conditions, after carrying out restoration sealing of the food, such as rice, at a container, and considering as an about 130-degree C elevated temperature.

[0003]

[Problem(s) to be Solved by the Device]

However, since heat was gradually transmitted to the packed food towards a core from the perimeter in the case of a pouch-packed food, when the core of food amounts to 130 degrees C, the surrounding part serves as an elevated temperature from it considerably, and there was a problem that a flavor was spoiled sharply. Since the temperature of a core does not reach even predetermined temperature in carrying out retort sterilization, without dropping a flavor, perfect sanitization is unrealizable.

[0004]

Thus, it is difficult to carry out full sanitization, without dropping a flavor on a pouch-packed food in practice.

[0005]

[Means for Solving the Problem]

Then, this design aims at offering the pack food which not only a general viable cell but the heat-resistant viable cell was annihilated, and was sanitized completely, as a result of repeating an experiment and research about carrying out full sanitization, without dropping a flavor by any approaches other than a retort.

[0006]

That is, this design is noodles food which is characterized by coming into a container to carry out the seal of the noodles food by which sterilization processing was carried out under the high-pressure high temperature service and by which the perfect sterile pack was carried out.

[0007]

In addition, noodles food is various paste, such as fried noodles, hot-boiled noodles, and spaghetti, and other precooked or things which contain non-cooked noodles food extensively here.

[0008]

[The gestalt of implementation of a design]

After adjusting the water content of noodles food suitably if needed, quantum restoration of this is carried out at the solitary meal tray by which UV disinfection was carried out. On the tray used for this design, since it is not required that it should have advanced gas barrier nature, it can cast using cheap plastic material.

[0009]

The tray on which quantum restoration of the noodles food was carried out is fed by the sealing chamber,

and sterilization processing under a high-pressure high temperature service is performed. Thereby, not only a general viable cell but a heat-resistant viable cell can be annihilated.

[0010]

It is desirable to use multistage car gondola for tray hold, and to carry out sterilization processing of many trays within a sealing chamber at once because of space-saving implementation. For example, width 12 train and a total of 72 trays of six steps of length can be held in one car gondola, and 1800 trays can be processed at once by using these 25 car gondola.

[0011]

100 degrees C or more of sterilization processings within a sealing chamber can be preferably performed collectively by using a 130–140-degree C hot pressurization steam to many trays held in the multistage car gondola in a sealing chamber in a short time for dozens of seconds thru/or about dozens of minutes. As for vapor pressure, it is desirable to consider as 2.7 – 3.0 kgf/cm extent. Moreover, when performing sterilization processing, the intermittent method which makes 1 cycle processing for 6 – 10 seconds, and performs it repeatedly about 6 to 8 times may be adopted.

[0012]

After sterilization processing within a sealing chamber, multistage car gondola is sent to cooking equipment if needed, and required noodles food is cooked. Water or a molten bath required for cooking can use what sanitization processing was beforehand carried out and was further adjusted to the predetermined pH value using many things.

[0013]

Each tray after the completion of cooking and in car gondola is discharged from cooking equipment, and puts and carries out the seal seal of the suitable lid material to a tray. Although the tray from cooking equipment to a seal sealing machine is conveyed by conveyance conveyor, although it is time amount slight in the meantime, since it will be exposed to the open air, in order to prevent the secondary pollution by this, let the field applied to a seal sealing machine from the outlet of cooking equipment be an about 100 to 1000–air cleanliness class clean booth.

[0014]

For example, the between from the outlet of cooking equipment to a seal sealing machine is made into a tunnel-like booth, a clean air generator is attached in the booth central upper part, and it is made to generate clean air continuously. Bacteria can be discharged outside by holding the inside of a booth to positive pressure (it being a high pressure 0.5 to 2 mmq for example, from an outside atmospheric pressure), and passing through clean air the bottom from on a booth, and passing towards a seal sealing machine to cooking equipment on a sink and a conveyance conveyor from a center to a periphery.

[0015]

After carrying out the seal seal of the tray, predetermined time \*\*\*\*\* is performed with a conventional method if needed, and equalization of the moisture absorption coefficient difference of the management after cooking and the lower layer section is attained.

[0016]

The noodles food with which the perfect sterile pack of this design characterized by the above process coming into a container to carry out the seal seal of the noodles food by which sterilization processing was carried out under elevated-temperature high-pressure conditions was carried out is obtained.

[0017]

An example of this noodles food 1 by which the perfect sterile pack was carried out is shown in drawing 1 , the sign 2 in drawing shows a lid and 3 shows a tray. The illustration abbreviation of the contents slack noodles food is carried out.

[0018]

When the assay was performed by the standard agar plate culture method about the noodles food which was manufactured by the above approach and by which the perfect sterile pack was carried out, both a number of general bacteria (number of micro organisms) and the number of heat-resistant spore bearing bacteria are less than [ 300 ] /g, and it was checked that full sanitization is carried out substantially.

[0019]

[Effect of the Device]

According to this design, the noodles food which the heat-resistant viable cell which may have adhered not only to a general viable cell but to the food ingredient was completely annihilated by sterilization processing under a high-pressure high temperature service, and full sanitization was carried out, and was packed can be offered, without spoiling a flavor like the conventional pouch-packed food.

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**TECHNICAL FIELD**

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[The technical field to which a design belongs]

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**PRIOR ART**

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**EFFECT OF THE INVENTION**

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[Effect of the Device]

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## MEANS

## [Means for Solving the Problem]

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In addition, noodles food is various paste, such as fried noodles, hot-boiled noodles, and spaghetti, and other precooked or things which contain non-cooked noodles food extensively here.

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## [The gestalt of implementation of a design]

After adjusting the water content of noodles food suitably if needed, quantum restoration of this is carried out at the solitary meal tray by which UV disinfection was carried out. On the tray used for this design, since it is not required that it should have advanced gas barrier nature, it can cast using cheap plastic material.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Device]

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**DESCRIPTION OF DRAWINGS**

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing an example of the noodles food by this design by which the perfect sterile pack was carried out.

[Description of Notations]

1 Noodles Food by Which Perfect Sterile Pack was Carried Out

2 Lid Material

3 Tray

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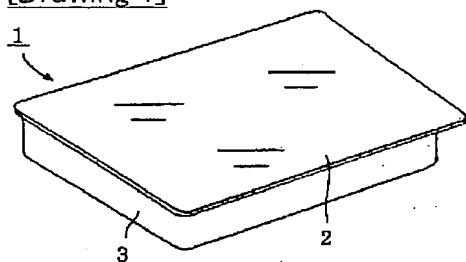
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DRAWINGS

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[Drawing 1]



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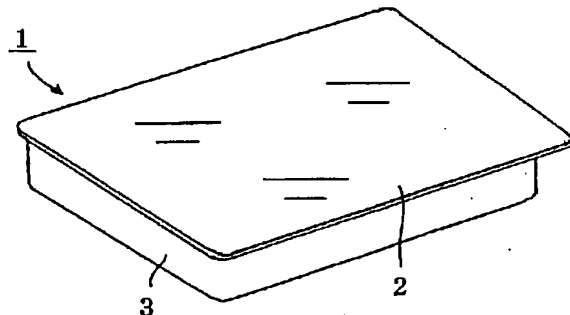
(74) 代理人 弁理士 ▲桑▼原 史生

(54) 【考案の名称】 完全無菌パックされた麺類食品

(57) 【要約】

【課題】 一般生菌だけでなく耐熱生菌をも死滅させて完全に無菌化されてパックされた麺類食品を提供する

【解決手段】 高圧高温条件下で滅菌処理されて完全無菌化された麺類食品がトレー3に充填され、トレーに蓋材2が被着されて密封シールされて得られる完全無菌パック麺類食品1。



(2)

実登3024090

1

2

【実用新案登録請求の範囲】

＊一例を示す斜視図である。

【請求項1】 高温高圧条件下で滅菌処理された麺類食品が容器内に密封シールされてなることを特徴とする完全無菌パックされた麺類食品。

【符号の説明】

1 完全無菌パックされた麺類食品

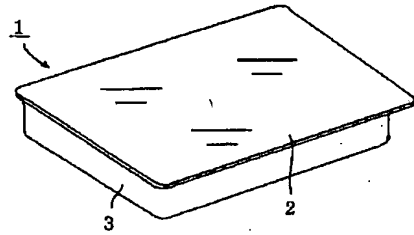
2 蓋材

3 トレー

【図面の簡単な説明】

【図1】 本考案による完全無菌パックされた麺類食品の＊

【図1】



## 【考案の詳細な説明】

【0001】

## 【考案の属する技術分野】

本考案は完全無菌パックされた麺類食品に関し、特に、一般生菌のみならず耐熱生菌をも実質的に完全に死滅させて完全無菌化されて容器にパックされた麺類食品に関する。

【0002】

## 【従来の技術】

無菌パックされた食品としてはいわゆるレトルト食品が知られている。これは、米飯等の食品を容器に充填密閉した後に高温高压条件下で殺菌することによって製造されるものであり、130℃程度の高温とすることにより一般生菌のみならず耐熱生菌をも完全に死滅させることが可能である。

【0003】

## 【考案が解決しようとする課題】

しかしながら、レトルト食品の場合、パックされた食品にはその周囲から徐々に中心に向けて熱が伝わるため、食品の中心部が130℃に達するときには周囲の部分はそれよりもかなり高温となっており、食味が大幅に損なわれるという問題があった。食味を落とさずにレトルト殺菌する場合には、中心部の温度が所定温度にまで達しないため、完全な無菌化を実現することができない。

【0004】

このようにレトルト食品では食味を落とさずに完全無菌化することが實際上困難である。

【0005】

## 【課題を解決するための手段】

そこで本考案は、レトルト以外の方法によって食味を落とさずに完全無菌化することについて実験と研究を重ねた結果、一般生菌だけでなく耐熱生菌をも死滅させて完全に無菌化したパック食品を提供することを目的とするものである。

【0006】

すなわち本考案は、高压高温条件下で滅菌処理された麺類食品が容器内に密封

シールされてなることを特徴とする完全無菌パックされた麺類食品である。

【0007】

なお、ここに麺類食品とは、焼きそば、焼きうどん、スパゲッティ等の各種パスタ、その他の調理済み又は未調理の麺類食品を広範に含むものである。

【0008】

【考案の実施の形態】

麺類食品の含水率を必要に応じて適宜調整した後、これをUV殺菌された個食トレーに定量充填する。本考案に用いるトレーには、高度なガスバリアー性を有することが要求されないため、安価なプラスチック材料を用いて成型することができる。

【0009】

麺類食品が定量充填されたトレーは、密閉チャンバーに送入されて、高圧高温条件下での滅菌処理が施される。これにより一般生菌のみならず耐熱生菌をも死滅させることができる。

【0010】

省スペース実現のため、トレー収容に多段ゴンドラを用いて一度に多数のトレーを密閉チャンバー内にて滅菌処理することが好ましい。例えば、1個のゴンドラには横12列、縦6段の合計72個のトレーを収容することができ、このゴンドラを25個用いることにより一度に1800個のトレーを処理することができる。

【0011】

密閉チャンバー内での滅菌処理は、100℃以上、好ましくは130～140℃の高温の加圧蒸気を用いることにより、数十秒ないし数十分程度の短時間内に、密閉チャンバー内の多段ゴンドラに収容される多数のトレーに対して一括して行うことができる。蒸気圧力は2.7～3.0kgf/cm程度とすることが好ましい。また、滅菌処理を行う場合、6～10秒間の処理を1サイクルとして6～8回程度繰り返して行う間欠方式を採用してもよい。

【0012】

密閉チャンバー内での滅菌処理後、必要に応じて多段ゴンドラを調理装置に送

って必要な麺類食品の調理を行う。調理に必要な水又は湯は予め無菌化处理され多ものを用い、更に所定pH値に調整されたものを用いることができる。

#### 【0013】

調理完了後、ゴンドラ内の各トレイは調理装置から排出され、適当な蓋材をトレイに被着して密封シールする。調理装置から密封シール機までのトレイは搬送コンベアにより搬送されるが、この間わずかな時間ではあるが外気に晒されることになるため、これによる二次汚染を防止するために、調理装置の出口から密封シール機にかけての領域はクリーン度100～1000程度のクリーンブースとされる。

#### 【0014】

例えば、調理装置の出口から密封シール機までの間をトンネル状のブースとし、クリーンエア発生装置をブース中央上部に取り付けて連続的にクリーンエアを発生させるようにする。ブース内を陽圧（例えば外気圧よりも0.5～2mmHg高い圧力）に保持して、クリーンエアをブースの上から下へ、また中央から外周へと流し、また搬送コンベア上では密封シール機から調理装置に向けて流すことにより、細菌を外部に排出することができる。

#### 【0015】

トレイを密封シールした後、必要に応じて常法により所定時間蒸らしを行って、調理後の上層部と下層部の水分吸収率差の均一化を図る。

#### 【0016】

以上の工程により、高温高圧条件下で滅菌処理された麺類食品が容器内に密封シールされてなることを特徴とする本考案の完全無菌パックされた麺類食品が得られる。

#### 【0017】

かかる完全無菌パックされた麺類食品1の一例が図1に示されており、図中符号2は蓋体、3はトレイを示す。内容物たる麺類食品は図示省略されている。

#### 【0018】

以上の方法によって製造した完全無菌パックされた麺類食品について標準寒天平板培養法により分析試験を行ったところ、一般細菌数（生菌数）及び耐熱性芽



胞菌数のいずれも300以下／gであり、実質的に完全無菌化されたものであることが確認された。

【0019】

【考案の効果】

本考案によれば、高圧高温条件下での滅菌処理により、一般生菌だけでなく、食品材料に付着している可能性のある耐熱生菌を完全に死滅させて完全無菌化されてパックされた麺類食品を、従来のレトルト食品のように食味を損なうことなく、提供することができる。